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SATURDAY, MARCH 3, 1849.



ANY matters press upon us for consideration. Amongst them the late fearful calamity in the Theatre Royal at Glasgow, where nearly 70 persons lost their lives in the crush produced by an alarm of fire, must not be passed by without comment. Several questions of great importance, and often discussed in our pages, are involved,—namely, the defective arrangement of the stairs and accesses in many of our theatres, the importance of obtaining a cheap and efficient mode of fire-proof construction, and the necessity, or, otherwise, for Government supervision.

At the beginning of the year, on the occurrence of a serious accident at the Victoria Theatre, we drew attention to the condition and arrangement of the stairs, lobbies, and modes of exit in several of our theatres, and said it should reconcile parties to the control over staircases and passages given to the official referees by the Buildings Act; and that, as the clause only applied to new and altered buildings, it was a question whether it ought not to be made to apply to existing structures, and extend to obtaining for the public the means of ready egress.

With ourselves this is no longer a question; some step, with the same end in view, is imperatively demanded, and we suggest that the Government should, as a first move, name three or more competent persons (the referees, if their time be not too much occupied), to examine and report on the metropolitan theatres, concert-rooms, and other places of public resort, with reference to the means afforded in them for safe and rapid egress.

To managers themselves, and the proprietors of these structures, we would say, do not wait for this, but set yourselves to work to render the approaches fire-proof, so far as possible, and the means of egress safe, ample, and commodious. Let it be well understood by the public, that this has been done, and the chance of panic, and of tumultuous rushing to escape on the slightest alarm, by which the mischief is always brought about, will be materially lessened.

The sense of security felt when it is known, as in the Royal Italian Opera House, Covent Garden, constructed under the provisions of the Act, that the staircases from the highest part of the building, and the accesses, are indestructible, can scarcely be overlooked. We mention the Covent Garden Opera House, not as being the only house where a certain degree of security in this respect may be enjoyed, but as a result of the compulsory clause in the Buildings Act.*

Were a fire to occur in some of our theatres, or even an alarm to be given sufficient to lead

* Some few alterations are being made in the Italian Opera House ready for the coming season, with a view to afford additional accommodation to visitors. The lower gallery, known as the box stalls, has been formed into boxes, and the corridor, heretofore cut off on this floor, continued all round the house. The amphitheatre has been increased by forming two rows of seats on both sides of the house in line of the top tier of boxes. Not content with having one of the best houses in London for seating and hearing in, the proprietors have thought desirable to increase for its visitors the facility of being seen; and have accordingly cut down the fronts of all the boxes to the extent of several inches; the same ornaments are replaced, and are thus necessarily brought closer together. What effect the alteration will have on the general appearance of the house remains to be seen.

the audience to endeavour, panic stricken, to escape, the result would be fearful.

"We will venture to say," remarks the Examiner, taking our view of the subject, "that there is not a theatre in London which at this moment would bear inspection, with a view to the safety of all its avenues, passages, and staircases. There is not one in which, in the event of fire or the false alarm of it, in some one quarter, or more than one, there would not be a jam of crushed and smothered bodies like that of Glasgow, but probably on a greater scale of destruction. But the Legislation which so sagely and carefully levels the powers of the law against penny theatres and unlicensed performances, takes no precautions to guard against this frightful mischief. There is an authority to prevent the performance of a play in which a word offensive to morals or decorum may be found, but there is none to prevent performances in a theatre so defectively constructed, that the false alarm of any drunkard, fool, or pickpocket may cause the destruction of masses of people inextricably jammed and pounded together, and perishing more cruelly than the sufferers in the black hole at Calcutta."

Irrespective of the materials composing the stairs and accesses, a careful revision should be made of the barriers and other obstructions on the stairs and in the passages. The doors, if not made to swing both ways, should all open outwards.

We have received from Glasgow a plan of the staircase wherein the disaster occurred. The stairs vary in width from 4 feet to about 4 feet 4 inches. One half the staircase forms a right angle with the other, and at the junction, where there are winders, there was a barrier, 5½ feet high, and 2 feet 3 inches wide, opening outwards, but held in its place by an iron bar attached to the wall, and hooking into a staple in the door, so as to narrow the passage to 22 inches. Lower down, and nearer to the entrance from the street, was a pair of folding doors, each 21 inches wide. The one to the right (going down stairs) opened outwards, the other half opened the reverse way, and this was kept closed by a strong bar hooking into a staple in the door, so as to prevent any large number of persons from passing through at one time. Judging from the statements before us, it seems it was at these barriers that the mischief was done, and persons on the spot think the same thing. "On looking at the matter coolly," says the *North British Mail*, "at this distance of time, and after a careful examination of the premises, there can be no doubt that, to the obstructions offered by the two fixed doors in the stair, the awful catastrophe may be attributed. Of course, had there been no panic, the narrow passages left open past the doors would have been sufficient to permit the leisurely and regular exit of the whole audience. But the possibility of a panic should always be provided for in such buildings, and the arrangements of the manager framed with a view of obviating such an occurrence should it happen."

There should be no fixed obstructions in the stairs or passages of a theatre.

Most of our readers have doubtless learnt from the daily papers the very trivial cause of the panic, but we will nevertheless repeat it in few words for a purpose.

Round the front of the upper gallery are several large crystal globes, with a gas light in the centre of each. The lights on each side are supplied with gas through a block-tin tube

of about half-an-inch in diameter, connected with an iron gas-pipe at the end of the gallery—that is, the globes on each side of the gallery are supplied from separate pipes. Had this not been fortunately so, the flame would have extended each way and over double the distance. In this half-inch pipe a leak took place, the escaped gas found its way into the space formed by the framing, and a piece of lighted paper thrown down by a boy who had used it to light a pipe, ignited the escaping gas. The result was that the flame soon heated the pipe to the melting point, and the aperture gradually enlarged, until, in a few seconds, a portion of the pipe was entirely melted away, when the inflated gas would issue with the full volume and force of a pipe of that diameter. The pipe continued thus to melt away gradually, and the ascending flame struck against the boarding forming the front of the gallery. A carpenter extinguished the flame by squeezing up the pipe with his blue bonnet, and all danger was thought over, when, from some unexplained cause, the panic occurred and the disaster followed.

Now, it was a curious coincidence that, on the morning of the day on which the accident occurred, a letter appeared in the *Glasgow Citizen*, from our correspondent Mr. Wilson, on various defects in construction which increase the chances of conflagrations,* which contained the following paragraph:—"One more fire-raiser, and I have done; namely, composition and block-tin gas-tubing,—which I hope 1850 will see an end of. The relative costs of composition tube (i.e. old lead, with a few old solder joints), block-tin tube, and wrought-iron tube, are about as 2, 3, and 4; hence the inducement to adhere to the two former; but the first is worthless for horizontal work, being soft and liable to sag between its bearings, and hold water; and both melt readily; and here is the danger. When a flame reaches the tube, it melts—the gas is ignited—and away it travels, burning and melting, behind lathing, up hollow partitions, over ceilings, through roofs, and only ceasing when its metal is exhausted, leaving the gas flaring at its source—the main."

It might really be thought that this was written after the occurrence, instead of before it, and should serve as a proof to Mr. Wilson's fellow citizens of his correctness and foresight.

It is a mercy that we have not to record a

* "If we cannot put an end to all fire insurance, by adopting those principles of construction which render buildings completely incombustible, there are yet improvements in ordinary practice which may be effected at little extra cost, and the omission of which I would fain see building proprietors entirely set their faces against. For example, there is an item in carpenters' accounts in Glasgow, 'safe limes' by name—mark it well—which are wooden limes laid over the inner portion of window and door openings, and carrying rubble masonry upon them; there is also a universal practice of inserting the ends of every tier of joists into the walls, resting on a thin board half through their thickness. Now, it is palpable that the walls of a building erected of stone or brick, when a fire does occur in it, and its combustible contents are consumed, ought to be found after about as good as they were before the fire, it being only necessary to replace the floor, roof, and timbers; yes, by the use of 'safe limes,' and by cutting them off nearly cutting the walls across at every floor level, the necessary consequence of a thorough gutting by fire is, that the very walls themselves are reduced to ruins, and the loss thus increased far beyond what might have been the limit; whereas, by the use of proper stone arches, and laying the joists longitudinally instead of transversely, carried by beams which have ridged and limited openings provided for them, or by inserting an iron socket for every joist laid in the ordinary way, such extra loss might have been prevented; the latter mode, however, has still the objection that the burning joists act with a powerful leverage in falling, and strain and shatter the walls accordingly."

"Another source of conflagration is the practice of inserting into the masonry of chimney-breasts the wooden planks to which the lath-strapping is affixed. The holes for these 'goblets,' as they are called by workmen, frequently penetrate to the flue, and the plug then offers itself as a conductor of fire from the chimney to the lathing and straps inside. It is a very laudable custom to give the wall at that part a coat of plaster between the straps, to prevent fire coming through the beds and joints of the masonry, which are served there; but this is not sufficient the goblets should disappear, and iron hold-fast nails then be used. Could hollow partitions, and hollow spaces behind lathing on walls, be done away with, the spreading of fire would be greatly retarded."